

REMARKS

Applicants thank the Examiner for the very thorough consideration given the present application.

Claims 20-37 are now present in this application. Claims 1-19 have been cancelled. Claims 20-37 have been added. Claims 20 and 36 are independent.

Reconsideration of this application, as amended, is respectfully requested.

Objection to the Abstract

The Examiner has noted that the application does not contain an Abstract of the Disclosure as required by 37 C.F.R. § 1.72(b). Attached hereto on a separate sheet is an Abstract of the Disclosure. Accordingly, reconsideration and withdrawal of this objection are respectfully requested.

Objection to the Specification

The Examiner has objected to the specification stating that the margins are too small and that the specification lacks page numbers. The Examiner has required a substitute specification.

In order to overcome this objection, Applicants have provided herewith a substitute specification. The specification has the

proper margins and page numbers. In the substitute specification, changes have been made to correct informalities. For example, the reference to the claims on page 1 has been deleted, subject headings have been inserted, a reference numeral has been corrected on page 6, and the listing of reference numerals on page 7 has been deleted. Applicants submit that the substitute specification contains no new matter. Further, Applicants submit that the changes made in the substitute specification are represented on a marked-up copy attached hereto.

Drawing Objections

The Examiner has objected to the drawings as not illustrating items 3, 4, 8 and 13 as described in the specification. In order to overcome this objection, Applicants have submitted, in a separate Letter to the Official Draftsperson, changes to Figures 1 and 2. The changes are indicated in red ink. The Examiner is respectfully requested to approve the proposed drawing changes.

Reference numerals 3, 5 and 8 have been inserted into Figure 1. Further, reference numeral "5" has been changed to --3-- in Figure 2. Reference numeral 4 is present in Figure 2 and reference number 13 indicates a UV light in Figure 1.

In view of the proposed drawing changes and the comments above, reconsideration and withdrawal of the objection to the drawings are respectfully requested.

Rejection Under 35 U.S.C. § 112, Second Paragraph

Claims 1-19 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. This rejection is respectfully traversed.

The Examiner makes reference to several instances in the claims that are allegedly indefinite. In order to overcome this rejection, Applicants have replaced claims 1-19 with added claims 20-37. It is respectfully asserted that added claims 20-37 are in full accordance with 35 U.S.C. § 112, second paragraph. Further, it is submitted that the added claims are of a parallel or broader scope as compared to originally presented claims 1-19.

Rejection Under 35 U.S.C. § 103

Claims 1-18 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Gavin et al. in view of James et al. and Koster et al. This rejection is respectfully traversed.

Gavin et al. fails to show, or suggest a combination of method steps or structural elements as set forth in Applicants' claims,

whether considered alone, or in combination with the other prior art of record. In Gavin et al., an outlet of a duct 22, 122 is sized such that an object 24, 124 cannot pass therethrough. See at least Figures 1-4 and 11B and column 8, lines 26-32. Moreover, Gavin et al. fail to show, or remotely suggest, "a plurality of conically narrowing ducts having relatively wider inlets and relatively narrower outlets," or a "depositing cell including a bundle-like arrangement of conically narrowing ducts with relatively wider inlets and relatively narrower outlets."

Figure 22 of Gavin et al. illustrate a system 210 for transferring solid supports 212 from a reservoir 214 to other locations. See column 14, lines 12-32. The system includes a length of tubing 228 having a small hole 230 that is sized to receive a single solid support 212. The small hole 230 is an inlet for a solid support 212. The small hole 230 is not an outlet for a solid support 212. Further, there is no disclosure in Gavin et al. that the length of tubing 228 is a conically narrowing duct. Further, Figure 22 fails to show or suggest a plurality of conically narrowing ducts, or any step of affixing deposited objects to a support.

The secondary reference to James et al. fails to cure the many deficiencies of the Gavin et al. reference. In James et al., a plurality of objects are not present in the duct prior to being

deposited on the support 106. As illustrated in James et al.'s Figure 8, a single bead 110 is allowed to enter the duct 36. Sensor wires 56, 63 electrically sense the entrance of the bead 110 into the duct 36. After the bead 110 enters the duct 36, the bead is flushed out of the duct by a pumped liquid, and deposited into a well 108 in a well plate 106 (see column 2, lines 18-28).

The arrangement of James et al. is again quite distinct relative to the present invention, and fails to cure the deficiencies of Gavin et al. In the present invention, a plurality of objects are present in each of the ducts, and there are a plurality of ducts. Neither Gavin et al. nor James et al. show or suggest such an arrangement. Further, the deposited bead of James et al. is not affixed to the support 106. Rather, the support 106 must include wells 108 in order to prevent the beads from being flushed off of the support 106.

Koster et al. has been cited by the Examiner as teaching a photo-chemical fixing. Koster et al. has not been cited for, nor does Koster et al. teach, the deficiencies of the primary references of Gavin et al. and James et al.

It is respectfully asserted that the present invention offers many advantages over the prior art of record, whether considered alone or in various combinations. The device of Gavin et al. would function in a relatively slow manner. The positioning head would

need to be moved to a reservoir in order to pick up new beads, and then be moved to a support in order to deposit the beads. In the present invention, a plurality of objects are contained in a liquid within the ducts. Therefore, the ducts have a ready supply of objects for dispensing.

The arrangement of James et al., would, again, be a relatively slow device, as compared to the present invention. In James et al., a liquid reservoir containing beads is located adjacent to a duct 36. The reservoir must be agitated until such time that a single bead 110 should happen to pass through an aperture 54 and into the duct 36. Once the bead 110 enters the duct 36, the device must wait until the bead 110 is transported to the outlet of the duct. Once the bead 110 is deposited, the process is again repeated.

In the present invention, there is no need to agitate a reservoir in order to deliver a single bead to a duct. The duct is capable of containing a liquid containing a plurality of objects. The next-to-be deposited object is located immediately adjacent to the outlet of the duct. Therefore, once a bead is deposited, a next-to-be deposited bead will be readily available, and will not need to enter the duct and be transported half way down the duct to the outlet.

Because the combination of method steps and structural elements, as recited in Applicants' claims, are not shown nor fairly suggested by the prior art of record, reconsideration and withdrawal of these rejections are respectfully requested.

CONCLUSION

Pursuant to 37 C.F.R. §§ 1.17 and 1.136(a), the Applicants respectfully petition for a three (3) month extension of time for filing a response in connection with the present application and the required fee of \$445.00 is attached hereto.

All of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully request that the Examiner reconsider all presently outstanding rejections and that they be withdrawn.

It is believed that a full and complete response has been made to the Office Action, and as such, the present application is in condition for allowance.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Mr. Scott L. Lowe (Reg. No. 41,458) at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

Appl. No. 09/463,136

Attached hereto is a marked-up version of the changes made to the application by this Amendment.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Respectfully submitted,

BIRCH, STEWART, KOLASCH & BIRCH, LLP

By Joe McKinney Muncy
Joe McKinney Muncy, #32,334

MM
KM/SLL/smm
2694-0124P

P.O. Box 747
Falls Church, VA 22040-0747
(703) 205-8000

Attachment: Version with Markings to Show Changes Made

(Rev. 02/12/01)